

E1  
Concl'd 76 ~~81~~ 26. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ \leq \alpha_0 \leq 2^\circ$ .

77 ~~85~~ 27. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ \leq \alpha_0 \leq 1^\circ$ .

80 ~~86~~ 28. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ < \alpha_0 \leq 20^\circ$ .

83 ~~89~~ 29. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ < \alpha_0 \leq 10^\circ$ .

84 ~~88~~ 30. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ < \alpha_0 \leq 5^\circ$ .

87 ~~89~~ 31. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ < \alpha_0 \leq 2^\circ$ .

88 ~~90~~ 32. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ < \alpha_0 \leq 1^\circ$ .

91 ~~93~~ 33. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$  which is about  $5^\circ$ .

92 ~~94~~ 34. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$  which is about  $1^\circ$ .

93 ~~95~~ 35. The electro-optical display device of claim ~~20, 37, 44, 63, 97, 99, 101, 102,~~  
~~62 or 119~~ <sup>67</sup> wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$  which is about  $0^\circ$ .

E2 2 37. An electro-optical display device of claim [36] ~~20~~ <sup>1</sup>, wherein  $\beta_0$  is not  $45^\circ$ .

E2  
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94 38. An electro-optical display device of claim ~~20~~<sup>1</sup>, [22, 24, 27, 28, 30 or 32] ~~37~~<sup>2</sup>,  
~~44, 63, 97, 99, 101, 102, 103 or 119~~<sup>6 24 56 58 60 61 62 78 67</sup>, wherein the liquid crystal layer has an untwisted  
structure in its initial orientation and can be reoriented to a twisted structure by said field  
component oriented predominantly parallel to the liquid crystal layer.

95 39. An electro-optical display device of claim ~~20~~<sup>1</sup>, [22, 24, 27, 28, 30 or 32] ~~37~~<sup>2</sup>,  
~~44, 63, 97, 99, 101, 102, 103 or 119~~<sup>6 24 56 58 60 61 62 78 67</sup>, wherein the liquid crystal layer has a twisted  
structure in its initial orientation which can be untwisted by the field component aligned  
predominantly parallel to the liquid crystal layer.

3 40. The electro-optical display device of claim ~~20~~<sup>1</sup>, [22, 24, 27, 28, 30 or 32]  
wherein said liquid crystal switching elements further comprise:  
(a) said liquid crystal molecules which are twistable;  
(b) a substrate; and  
(c) an electrode structure which generates said electric field having a component  
predominantly parallel to the surface of said liquid crystal layer.

96 41. The electro-optical display device of claim ~~40~~<sup>3 6 78 67</sup>, ~~44~~<sup>6</sup> or ~~119~~<sup>78 67</sup>, wherein the initial  
twist angle  $\beta$  of the liquid crystal molecules is within 15 degrees of  $0^\circ$ , or within 15  
degrees of  $90^\circ$ .

E3

6 44. [The electro-optical display device of claim 43, further comprising:] An  
electro-optical display device comprising a plurality of liquid crystal switching elements  
which comprise a liquid crystal layer comprising liquid crystal molecules and having a  
surface for display of an image which is switched under control of an electric field having a  
component predominantly parallel to said surface, wherein said liquid crystal molecules  
have a pretilt angle  $\alpha_0$ ,  $0^\circ \leq \alpha_0 < 30^\circ$ .

wherein said liquid crystal switching elements further comprise:

- (a) said liquid crystal molecules which are twistable;
- (b) a substrate;

E3  
concl'd

- (c) an electrode structure which generates said electric field having a component predominantly parallel to the surface of said liquid crystal layer;
- (d) a polarizer in optical relation with said liquid crystal layer;
- (e) a voltage source connected to said electrode structure; and
- (f) an orientation layer, in contact with at least one surface of said liquid crystal layer, which aligns the liquid crystal molecules in a direction whereby they have an orientation angle  $\beta_0$ ,  $0^\circ < \beta_0 < 90^\circ$ .

91 45. The electro-optical display device of claim ~~44~~<sup>6</sup> or ~~119~~<sup>78 67</sup>, comprising an orientation layer, in contact with at least one surface of said liquid crystal layer, which aligns the liquid crystal molecules in a direction whereby they have said pretilt angle  $\alpha_0$ ,  $0^\circ \leq \alpha_0 < 30^\circ$ .

E4

24 68. [The electro-optical display device of claim 40,] An electro-optical display device comprising a plurality of liquid crystal switching elements which comprise a liquid crystal layer comprising liquid crystal molecules and having a surface for display of an image which is switched under control of an electric field having a component predominantly parallel to said surface, wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ \leq \alpha_0 < 30^\circ$ ,

wherein said liquid crystal switching elements further comprise:

- (a) said liquid crystal molecules which are twistable;
- (b) a substrate; and
- (c) an electrode structure which generates said electric field having a component predominantly parallel to the surface of said liquid crystal layer.

wherein the electrode structure is arranged alternately in at least two different planes in parallel with the substrate.

E5

66 -97. [Please add the following new claims: ]  
An electro-optical device of claim 20, wherein said liquid crystal molecules have an orientation angle  $\beta_0$  which is not  $40^\circ$ , not  $45^\circ$  and not  $50^\circ$ .

E5  
Cont. 57 ~~98~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 > 50^\circ$  or  $\beta_0 < 40^\circ$ .

58 ~~99~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 \geq 55^\circ$  or  $\beta_0 \leq 35^\circ$ .

59 ~~100~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 \geq 60^\circ$  or  $\beta_0 \leq 30^\circ$ .

60 ~~101~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 \geq 65^\circ$  or  $\beta_0 \leq 25^\circ$ .

61 ~~102~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 \geq 70^\circ$  or  $\beta_0 \leq 20^\circ$ .

62 ~~103~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 \geq 75^\circ$  or  $\beta_0 \leq 15^\circ$ .

63 ~~104~~. An electro-optical device of claim ~~20~~<sup>1</sup>, wherein said liquid crystal molecules have an orientation angle  $\beta_0 \geq 80^\circ$  or  $\beta_0 \leq 10^\circ$ .

64 ~~105~~. An electro-optical display device of claim ~~20~~<sup>1</sup>, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

69 ~~106~~<sup>58 68</sup>. An electro-optical display device of claim ~~22~~<sup>22</sup>, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

E5  
cont. 73 ~~86~~ 107. <sup>82 72</sup> An electro-optical display device of claim 24, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

78 ~~87~~ 108. <sup>85 77</sup> An electro-optical display device of claim 27, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

81 ~~88~~ 109. <sup>86 80</sup> An electro-optical display device of claim 28, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

85 ~~89~~ 110. <sup>88 84</sup> An electro-optical display device of claim 30, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

89 ~~90~~ 111. <sup>90 88</sup> An electro-optical display device of claim 32, wherein the liquid crystal layer has an untwisted structure in its initial orientation and can be reoriented to a twisted structure by said field component oriented predominantly parallel to the liquid crystal layer.

66 ~~71~~ 112. <sup>1</sup> An electro-optical display device of claim 20, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

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CONT  
70 72 113. An electro-optical display device of claim 22, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

80 68  
82 72  
74 75 114. An electro-optical display device of claim 24, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

85 77  
79 78 115. An electro-optical display device of claim 27, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

84 80  
82 79 116. An electro-optical display device of claim 28, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

88 84  
86 76 117. An electro-optical display device of claim 30, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

90 88  
90 77 118. An electro-optical display device of claim 32, wherein the liquid crystal layer has a twisted structure in its initial orientation which can be untwisted by the field component aligned predominantly parallel to the liquid crystal layer.

6.7 78 119. An electro-optical display device comprising a plurality of liquid crystal switching elements which comprise a liquid crystal layer comprising liquid crystal molecules and having a surface for display of an image which is switched under control of an electric field having a component predominantly parallel to said surface, wherein said liquid crystal molecules have a pretilt angle  $\alpha_0$ ,  $0^\circ \leq \alpha_0 < 30^\circ$ ,

wherein said liquid crystal switching elements further comprise:

(a) said liquid crystal molecules which are twistable;